Name:

p1105: Factoring when $a = 1$ (v12)

Example: Factor $x^2 + 5x - 24$

Find two numbers whose product is -24 and whose sum is 5. Focus on finding factor pairs of -24. Eventually you consider 8 and -3 because $(8)(-3) = -24$. You verify this pair is correct because $(8) + (-3) = 5$. Thus, your answer:

$$(x + 8)(x - 3)$$

1. Factor $x^2 + 2x - 35$

$$(x + 7)(x - 5)$$

2. Factor $x^2 - 4x - 12$

$$(x + 2)(x - 6)$$

3. Factor $x^2 - 13x + 36$

$$(x - 4)(x - 9)$$

4. Factor $x^2 + 7x + 10$

$$(x + 5)(x + 2)$$

5. Factor $x^2 - 16$

$$(x - 4)(x + 4)$$

6. Factor $x^2 - 14x + 49$

$$(x - 7)(x - 7)$$

7. Factor $x^2 - x - 72$

$$(x + 8)(x - 9)$$

8. Factor $x^2 + 10x + 16$

$(x + 8)(x + 2)$

9. Factor $x^2 + 2x - 15$

$(x + 5)(x - 3)$

10. Factor $x^2 - x - 30$

$(x + 5)(x - 6)$

11. Factor $x^2 + 13x + 42$

$(x + 6)(x + 7)$

12. Factor $x^2 - 16x + 63$

$(x - 7)(x - 9)$

13. Factor $x^2 - 2x - 35$

$(x + 5)(x - 7)$

14. Factor $x^2 + 8x + 15$

$(x + 5)(x + 3)$

15. Factor $x^2 - 17x + 72$

$(x - 9)(x - 8)$